



Memorandum to CCW Delegates

The Need to Re-Visit Protocol III on Incendiary Weapons

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Introduction

The horrors of napalm and other incendiary weapons impelled the negotiation of the third protocol to the Convention on Conventional Weapons (the CCW). Drafters of the protocol reacted to the death, disfigurement, and severe and painful injuries that incendiary weapons inflicted on civilians during the Vietnam War and other armed conflicts. The purpose of the protocol was to protect civilian lives by restricting the circumstances in which such weapons could be used.

Protocol III has failed to live up to its promise of protecting civilians from the effects of incendiary weapons. The protocol entered into force on December 2, 1983,¹ and nearly three decades of state practice have shown it to be inadequate in a number of respects. The protocol's definition of incendiary weapons as those "primarily designed" to set fire to objects or cause burn injuries to persons is too narrow, allowing multi-purpose and widely used incendiary munitions such as white phosphorus to escape regulation. The restrictions themselves are insufficiently rigorous, with exceptions that too often permit the use of incendiary weapons in ways that could be dangerous to civilians. Moreover, continued use of incendiary weapons by states parties and states not party reflects the failure of Protocol III to generate stigma against such weapons. These problems are exacerbated by the United States' reservation to Protocol III, which undermines the normative force of the existing rules. Human Rights Watch, therefore, calls on states parties to the Convention on Conventional

¹ Convention on Conventional Weapons Protocol on Prohibitions or Restrictions on the Use of Incendiary Weapons (Protocol III), adopted October 10, 1980, 1342 U.N.T.S. 171, entered into force December 2, 1983. As of November 16, 2010, Protocol III now has 107 states parties, according to the UN Office at Geneva, [http://www.unog.ch/80256EE600585943/\(httpPages\)/3CE7CFCoAA4A7548C12571C00039CBoC?OpenDocument](http://www.unog.ch/80256EE600585943/(httpPages)/3CE7CFCoAA4A7548C12571C00039CBoC?OpenDocument) (accessed November 15, 2010). Of CCW states parties, only Cameroon, Israel, South Korea, Monaco, Morocco, Turkey, and Turkmenistan have not consented to be bound by Protocol III.

Weapons to review and reevaluate the adequacy of Protocol III from a humanitarian perspective.

White Phosphorus

Recent use of white phosphorus in conflicts in Afghanistan, Gaza, Iraq, and elsewhere both provides a case study of the civilian harm caused by incendiary munitions and illustrates the deficiencies of the protocol. White phosphorus munitions often fall through the cracks of Protocol III's definition of incendiary weapons because they are generally designed to serve as smokescreens and to illuminate targets. The negative humanitarian effects of white phosphorous munitions, regardless of their intended purpose, however, can be as serious as those of weapons designed for incendiary purposes and should be regulated accordingly. Furthermore, in at least one case where civilian casualties were reported, the United States admitted having used white phosphorous as a weapon.²

White phosphorus is a chemical substance that ignites when exposed to atmospheric oxygen. The chemical reaction creates intense heat of about 1500° F (815° C) and produces light and a thick chemical smoke. White phosphorous continues to burn while exposed to oxygen until it is exhausted. The smoke is impenetrable to infrared optics, making it especially effective for protecting tanks from guided missiles. These various properties make white phosphorus useful for creating smokescreens, illuminating and marking targets, and igniting fuel supplies, ammunition, and other materiel.

It can also be used to attack people and to "smoke out" enclosures, causing anyone inside to flee the smoke and fire by going outside where they can be attacked with high explosive rounds. This last use is controversial, even when applied to enemy combatants because of the nature of the injuries caused.

White phosphorus causes horrific injuries to humans. It is highly soluble in fat, and thus in human flesh. When it touches skin, it causes severe thermal and chemical burns, often down to the bone, that are slow to heal and likely to develop infections. Because white phosphorus burns when exposed to oxygen, wounds that have been cleaned and dressed

² A US Department of Defense spokesman reportedly told BBC News that the United States used white phosphorous as "an incendiary weapon against enemy combatants" during its 2005 attack on Fallujah, Iraq. "US Used White Phosphorous in Iraq," *BBC News*, November 16, 2005, <http://news.bbc.co.uk/2/hi/4440664.stm> (accessed November 15, 2010). Human Rights Watch did not independently confirm reports of civilian casualties from white phosphorus during the attack on Fallujah, but the media reported accounts from doctors and soldiers of burned women and children. Andrew Buncombe and Solomon Hughes, "The Fog of War: White Phosphorus, Fallujah and Some Burning Questions," *The Independent* (UK), November 15, 2005, <http://www.independent.co.uk/news/world/americas/the-fog-of-war-white-phosphorus-fallujah-and-some-burning-questions-515345.html> (accessed November 16, 2010).

can reignite when the dressings are removed. White phosphorus can also enter the bloodstream through the burns and cause multiple organ failure. For this reason, burns on only 10 percent of the body are often fatal.³

White phosphorus was first used in World War I and was subsequently used extensively in World War II and the Vietnam War. Reports of recent use include by the Taliban and NATO forces in Afghanistan (2009),⁴ Israel in Gaza and Lebanon (2008 and 2006, respectively),⁵ Ethiopia in Somalia (2007),⁶ US and UK in Iraq (2004),⁷ and Russia in Chechnya (1994-1995).⁸

Article 1: Loopholes in the Definition

Excerpt from CCW Protocol III

Article 1: Definitions

For the purpose of this protocol:

1. "Incendiary weapon" means any weapon or munition which is primarily designed to set fire to objects or to cause burn injury to persons through the action of flame, heat, or combination thereof, produced by a chemical reaction of a substance delivered on the target.
 - (a) Incendiary weapons can take the form of, for example, flame throwers, fougasses, shells, rockets, grenades, mines, bombs and other containers of incendiary substances.
 - (b) Incendiary weapons do not include:

³ "Identification of Explosive White Phosphorus Injury and Its Treatment," signed by Dr. Gil Hirshorn, Colonel, Head of the Trauma Unit, Headquarters of the Chief Military Medical Officer, Ref. Cast Lead SH9 01293409 (original Hebrew on file at Human Rights Watch); "Exposure to White Phosphorus," signed by Dr. Leon Fulls, Ministry of Health War Room, January 15, 2009, Ref. Cast Lead SH9 01393109 (original Hebrew on file at Human Rights Watch); Global Security, "White Phosphorus," <http://www.globalsecurity.org/military/systems/munitions/wp.htm> (accessed November 6, 2010).

⁴ "Taliban 'used white phosphorus,'" *BBC News*, May 11, 2009, <http://news.bbc.co.uk/2/hi/8045012.stm> (accessed October 27, 2010); "Afghanistan: NATO Should 'Come Clean' on White Phosphorus," Human Rights Watch news release, May 8, 2009, <http://www.hrw.org/en/news/2009/05/08/afghanistan-nato-should-come-clean-white-phosphorus>; "U.S.: Afghan Militants Using White Phosphorus," Associated Press, November, 5, 2009, http://www.msnbc.msn.com/id/30672076/ns/world_news-south_and_central_asia (accessed November 16, 2010). While NATO and US spokespersons confirmed to Human Rights Watch and the Associated Press use of white phosphorus by NATO troops in Afghanistan, their reports did not make it clear if use was by the United States or other NATO forces.

⁵ Human Rights Watch, *Rain of Fire: Israel's Unlawful Use of White Phosphorus in Gaza* (New York: Human Rights Watch, March 2009), <http://www.hrw.org/en/reports/2009/03/25/rain-fire>; Damien McElroy, "Israel Accused of Using Illegal White Phosphorus Shells in Gaza," *The Telegraph* (UK), January 11, 2009, <http://www.telegraph.co.uk/news/worldnews/middleeast/israel/4218237/Israel-accused-of-using-illegal-white-phosphorus-shells-in-Gaza.html> (accessed Oct. 27, 2010); Meron Rappaport, "Israel Admits Using Phosphorus Bombs during War in Lebanon," *Haaretz.com*, October 22, 2006, <http://www.haaretz.com/news/israel-admits-using-phosphorus-bombs-during-war-in-lebanon-1.203078> (accessed on November 16, 2010).

⁶ Report of the Monitoring Group on Somalia pursuant to UN Security Council resolution 1724 (2006), S/2007/436, July 17, 2007, http://www.fas.org/asmp/campaigns/MANPADS/2007/S_2007_436.pdf (accessed November 16, 2010).

⁷ "US Used White Phosphorus in Iraq," *BBC News*; "UK used white phosphorus in Iraq," *BBC News*, November 16, 2005, http://news.bbc.co.uk/2/hi/uk_news/politics/4441822.stm (accessed November 16, 2010).

⁸ Lester W. Grau, "Changing Russian Urban Tactics: The Aftermath of the Battle for Grozny," *INSS Strategic Forum*, no. 28, July 1995, <http://fmso.leavenworth.army.mil/documents/grozny.htm> (accessed November 16, 2010).

- (i) Munitions which may have incidental incendiary effects, such as illuminants, tracers, smoke or signalling systems;
- (ii) Munitions designed to combine penetration, blast or fragmentation effects with an additional incendiary effect, such as armour-piercing projectiles, fragmentation shells, explosive bombs and similar combined-effects munitions in which the incendiary effect is not specifically designed to cause burn injury to persons, but to be used against military objectives, such as armoured vehicles, aircraft and installations or facilities.

The definition of incendiary weapons in Protocol III is too narrow and fails in particular to deal adequately with multi-purpose incendiary munitions. Article 1 of Protocol III provides a loophole for such munitions in two ways: it focuses on the purpose for which incendiaries are “primarily designed” and provides exceptions for those munitions with incendiary effects that are “incidental.” A strong definition is critical because it determines which munitions are covered by the rest of the protocol.

The language of Article 1(1) creates a loophole by defining incendiary weapons in terms of the purpose for which a device was “primarily designed.” The most natural reading of this language is that it refers to the purpose identified by the developer and manufacturer. Some incendiary munitions, such as white phosphorus, can serve multiple functions. While certain artillery shells may be labeled by their manufacturers as “primarily designed” to produce smokescreens to conceal troop movements, those same shells can be used as incendiary weapons to attack humans and military or civilian objects, causing dramatic civilian harm.

For example, because M825E1 155mm artillery projectile rounds assembled at the Pine Bluff Arsenal in the United States are described by defense experts as smoke munitions,⁹ Article 1(1) could be read to exclude them from the purview of Protocol III. These rounds are extremely dangerous, however, when used near civilians. During a 22-day operation in Gaza in late 2008 and early 2009, Israel Defense Forces (IDF) air burst M825E1 rounds over heavily populated areas, including most notably a UN compound.¹⁰ Each artillery round delivered burning white phosphorus wedges, setting fire to civilian buildings, including a school and a hospital, burning civilians, and causing terror.¹¹ This harm could have been either a side

⁹ Pine Bluff Arsenal’s mission statement reads: “Pine Bluff Arsenal... serves as the Specified Mission Facility for smoke munitions and maintains the sole US capability for white phosphorus fill.” Pine Bluff Arsenal, “Mission Statement,” <http://www.pba.army.mil/> (accessed November 16, 2010). For a description of these weapons as smoke munitions, see Global Security, “M825 155mm Projectile,” <http://www.globalsecurity.org/military/systems/munitions/m825.htm> (accessed November 16, 2010). Other production facilities for white phosphorus munitions existed in the past.

¹⁰ The IDF also used 120mm white phosphorus mortars, but Human Rights Watch focused its research on the use of white phosphorus artillery shells because they caused more civilian harm. Human Rights Watch, *Rain of Fire*, p. 12.

¹¹ Human Rights Watch, *Rain of Fire*, pp. 45-46.

effect of the use of white phosphorous as a smokescreen or the result of deliberate use of white phosphorous for another purpose, that is, as a weapon. Regardless, the use of white phosphorus shells in civilian areas is unacceptable from a humanitarian perspective.

The “primarily designed” problem is exacerbated by Article 1(b)(i), which exempts from the definition of incendiary weapons “[m]unitions which may have incidental incendiary effects, such as illuminants, tracers, smoke or signalling systems.” As explained above, for white phosphorus munitions, such as the M825E1 rounds, the incendiary effects can be substantial yet seen as “incidental” to the screening or illuminating effects. The intent behind the use of white phosphorus can also be ambiguous to an outside observer, making it difficult to determine whether the incendiary effects are primary or incidental. White phosphorus munitions could be used in populated areas for their “incidental” incendiary effects under the guise of being used primarily as an obscurant or illuminant.

The IDF’s use of white phosphorus in Gaza is a well-documented example of the difficulties of determining whether the effects of dual-use munitions like white phosphorus smoke rounds are primary or incidental. The IDF first denied using white phosphorus, then claimed it used the chemical only as an obscurant.¹² After conducting an internal investigation, the IDF said:

The IDF uses white phosphorus as a smoke screen, and uses certain smoke bombs that contain elements of white phosphorus. These uses are standard and legal. The use of smoke obscurants proved to be a very effective means, and in many cases, prevented the need to use explosive munitions whose impact would have been considerably more dangerous.¹³

Even if the IDF’s claims are taken as true, the use of white phosphorus in Gaza illustrates the problems with Protocol III’s current definition of incendiary weapons. Whatever the purpose of the IDF shelling in or near the populated areas, including of a UN Relief and Works Agency school in Beit Lahiya, the harm to civilians was significant. The attacks killed 12 civilians, wounded dozens more, and set classrooms ablaze.¹⁴ Some could argue, however, that the

¹² “Israel Denies Banned Weapon Use,” *BBC News*, January 11, 2009, http://news.bbc.co.uk/2/hi/middle_east/7823078.stm (accessed November 7, 2010).

¹³ “IDF Releases Information Regarding Operation Cast Lead Investigations,” IDF news release, April 22, 2009, <http://dover.idf.il/IDF/English/News/today/09/4/2201.htm> (accessed November 7, 2010).

¹⁴ Human Rights Watch, *Rain of Fire*, pp. 3-4.

protocol would not have covered those kinds of attacks by a state party. The language of Protocol III allows the munitions' serious humanitarian impacts to escape regulation.

Article 2: Inadequate Protection of Civilians and Civilian Objects

Excerpt from CCW Protocol III

Article 1: Definitions

2. "Concentration of civilians" means any concentration of civilians, be it permanent or temporary, such as in inhabited parts of cities, or inhabited towns or villages, or as in camps or columns of refugees or evacuees, or groups of nomads....
5. "Feasible precautions" are those precautions which are practicable or practically possible taking into account all circumstances ruling at the time, including humanitarian and military considerations.

Article 2: Protection of civilians and civilian objects

1. It is prohibited in all circumstances to make the civilian population as such, individual civilians or civilian objects the object of attack by incendiary weapons.
2. It is prohibited in all circumstances to make any military objective located within a concentration of civilians the object of attack by air-delivered incendiary weapons.
3. It is further prohibited to make any military objective located within a concentration of civilians the object of attack by means of incendiary weapons other than air-delivered incendiary weapons, except when such military objective is clearly separated from the concentration of civilians and all feasible precautions are taken with a view to limiting the incendiary effects to the military objective and to avoiding, and in any event to minimizing, incidental loss of civilian life, injury to civilians and damage to civilian objects....

In addition to having an outdated and narrow definition of incendiary weapons, Protocol III fails to protect adequately civilians and civilian objects from those weapons it does cover, especially in the case of surface-launched incendiaries.

Article 2 leaves open the possibility of civilian harm from air-delivered incendiary weapons. Article 2(2) prohibits use of such weapons "in all circumstances" where the military object of attack is "located within a concentration of civilians." This clause applies only to use in certain places, that is concentrations of civilians, however, and incendiary weapons used outside these areas still endanger civilians. US use of napalm-like Mk.-77 firebombs on the way into Baghdad in 2003 show that air-dropped incendiary weapons continue to be part of

modern warfare.¹⁵

Protocol III's protections for civilians are even weaker when incendiary weapons are surface launched.¹⁶ Article 2(3) regulates the use of surface-launched incendiary weapons in concentrations of civilians. It creates an exception, however, for cases in which the "military objective is clearly separated from the concentration of civilians" and "all feasible precautions" are taken to limit the "incendiary effects to the military objective" and to avoid or minimize "incidental loss of civilian life, injury to civilians and damage to civilian objects."

Attacking only military objectives that are "clearly separated" from the concentration of civilians does not necessarily guarantee the safety of civilians because civilians can still be nearby and weapons can miss their targets. In addition, even when incendiary artillery rounds do not miss their intended target, their incendiary effects cover a large area. Surface-launched incendiary agents, such as white phosphorus, are often delivered via artillery, which is unguided and, particularly when filled with an incendiary and used at a long range, has a wide radius of impact. The 155mm M825E1 artillery rounds the IDF used in Gaza spread white phosphorus wedges to a radius of about 125 meters (410 feet), burning civilians and setting fire to civilian buildings.

Recent use of surface-launched white phosphorous munitions—by Israel in Gaza in late 2008 and 2009, the United States in Fallujah in 2004, and Russia in Grozny in 1994—shows that the munitions are used in modern combat in populated areas and thus threaten civilians. In the aftermath of the Fallujah attacks, the media recorded reports of burned women and children. For example, a doctor said he "treated people who had their skin melted," while a resident said he saw wounds that "continued to burn on the skin even after people dumped water on the burns."¹⁷

The lax restrictions for surface-launched incendiary weapons are also problematic because non-state armed groups are more likely to possess and use them than air-launched models. These groups usually do not have aircraft, but more often possess ground equipment

¹⁵ See, for example, Andrew Buncombe, "Incendiary Weapons: The Big White Lie," *The Independent* (UK), November 17, 2005, <http://www.independent.co.uk/news/world/politics/incendiary-weapons-the-big-white-lie-515664.html> (accessed November 16, 2010).

¹⁶ At the time of negotiations of Protocol III, states were divided about whether to ban use of all incendiary weapons in populated areas or to focus regulations on air-dropped incendiaries which were believed to be less accurate. The latter approach prevailed. See W. Hays Parks, "The Protocol on Incendiary Weapons," *International Review of the Red Cross*, vol. 279, November-December 1990, pp. 541-542.

¹⁷ Buncombe and Hughes, "The Fog of War," *The Independent* (UK).

suitable for firing incendiary weapons. Rebel groups are unlikely to be deterred from using such ground-launched weapons if the norm against them is less than absolute.

The US Reservation to Protocol III

The reservation to Protocol III that the United States submitted in January 2009 has exacerbated the protocol's problems. Upon its consent to be bound by the protocol, the United States reserved "the right to use incendiary weapons against military objectives located in concentrations of civilians where it is judged that such use would cause fewer casualties and/or less collateral damage than alternative weapons..."¹⁸ If accepted as valid, this reservation would create an exception to Protocol III's Article 2(2) prohibition on using airdropped incendiary weapons in civilian areas. It would also exempt the United States from the Article 2(3) requirement that states use incendiary weapons to attack military targets in civilian areas only when they are "clearly separated from the concentration of civilians." This insistence on the lawfulness of using incendiary weapons in civilian areas under certain circumstances further weakens the norms against the use of such weapons and undermines the protocol's existing protections for civilians. So long as the United States demands the right to use incendiaries in civilian areas in violation of the requirements of Protocol III, it will be more difficult to convince state and non-state armed groups of the impermissibility of such attacks.

The US reservation should be understood as invalid and without legal effect. The Vienna Convention on the Law of Treaties forbids states from filing reservations that are "incompatible with the object and purpose of the treaty."¹⁹ Attempting to circumvent Protocol III's Article 2 rules on use of incendiary weapons in concentrations of civilians is incompatible with the object and purpose of the protocol, which is to protect civilians. Accordingly, 17 states parties have objected to the reservation, and no states have expressly accepted it.²⁰ The language of the reservation is unacceptably broad because it gives military

¹⁸ United Nations Treaty Collection, "Reservation by the United States on Consent to be Bound by Protocol III," January 21, 2009, http://treaties.un.org/pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVI-2&chapter=26&lang=en#EndDec (accessed November 16, 2010).

¹⁹ Vienna Convention on the Law of Treaties, adopted 23 May 1969, U.N.T.S. Reg. No. 18,232, U.N. Doc. A/CONF. 39/27 (1969), entered into force 27 January 1980, art. 19. Although the United States is not a party to the Vienna Convention, it accepts many of its provisions as reflective of binding customary international law. US Department of State, "Vienna Convention on the Law of Treaties," undated, <http://www.state.gov/s/l/treaty/faqs/70139.htm> (accessed November 16, 2010).

²⁰ Austria, Belgium, Cyprus, Denmark, Finland, France, Germany, Greece, Ireland, the Netherlands, Norway, Poland, Portugal, Spain, Sweden, Switzerland, and the United Kingdom objected to the reservation. The Netherlands took the view that "in respect of paragraph 2 of article 2, the reservation is incompatible with the object and purpose of the Protocol, since it follows from the very language of this provision, being one of the core provisions of the Protocol, that no exception whatsoever is allowed." France objected to the US reservation on the grounds that "it cannot guarantee the protection of civilians, which is the *raison d'être* of the Protocol." The United Kingdom noted that the reservation might be permissible if understood narrowly

commanders too much discretion to use incendiary weapons in concentrations of civilians. Even if the reservation is recognized as invalid, the fact that the United States could argue that it is permissible reflects a lack of clarity in Article 2.

Conclusion

Incendiary munitions continue to produce needless and unacceptable civilian suffering in conflicts around the world. The inadequacies of Protocol III should be addressed as part of a thorough review of its general status and operation during the CCW Fourth Review Conference in November 2011. In addition to reviewing issues of compliance and universalization, states parties should consider amending the protocol.

Possible reforms could include one or more of the following:

- Adoption of an effects-based definition of incendiary weapons

Rather than defining incendiary weapons in terms of the intent of the designer or user, devices could be classified based on their actual effects. Under this approach, if a munition tends to have the substantial effect of causing burns and igniting fires through chemical combustion, the munition would be classified as an incendiary weapon even if it is designed or used primarily as an illuminant or screening device or for any other purpose. Focusing on a munition's substantial effects would better protect civilians by ensuring that all de facto incendiary weapons are subject to the same standards. The burden would fall on states to demonstrate that any incendiary effects of a munition are minimal and incidental enough for the munition to be excluded from the protocol's restrictions.

- An explicit presumption against the lawfulness of their use

Because incendiary weapons often have substantial humanitarian costs, states could adopt a clear presumption that the risk to civilians of using such weapons substantially outweighs the concrete and direct military advantage expected from an attack. Such a presumption could apply to attacks against concentrations of civilians, or alternatively to all attacks. This approach would shift the burden on armed forces to prove their use of an incendiary weapon was acceptable.

- An outright prohibition on the use of all incendiary weapons in civilian areas

All use of air-dropped incendiaries within concentrations of civilians is already prohibited under Article 2(2). States parties could extend the Article 2(2) prohibition to proscribe also

as permitting only the use of incendiary weapons to destroy biotoxin facilities. United Nations Treaty Collection, "Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons which may be deemed to be Excessively Injurious or to have Indiscriminate Effects," October 22, 2010, http://treaties.un.org/pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVI-2&chapter=26&lang=en#EndDec (accessed October 22, 2010).

the use of surface-launched incendiary weapons within a concentration of civilians “in all circumstances.”

- A comprehensive ban on use in all circumstances

A comprehensive ban on the use of incendiary weapons—defined based on their effects, as discussed above—could be the most effective strategy for protecting civilians. Such a ban would yield significant humanitarian benefits by closing off the exceptions that permit ongoing use of incendiary weapons. A complete prohibition would be clear, leaving less room for interpretation and controversy. It would also contribute to a stronger norm against the use of incendiary weapons by states and non-state armed groups.

Given the ongoing harm caused by incendiary weapons, it is crucial that states parties revisit Protocol III. Amendment of the protocol is necessary in order to enhance the protection of civilians from the harmful effects of incendiary weapons and to increase the stigma against the weapons.